

FIVE NEW SPECIES OF MIRIDAE FROM TEXAS
(HEMIPTERA).¹

By H. G. JOHNSTON, College Station, Texas.

Atractotomus flavotarsus n. sp.

Allied to *crataegi* Knight but distinguished by shorter rostrum, thicker antennal segments I and II in male, and the yellow tarsi.

Male. Length 2.6 mm., width 1.2 mm. Head: width .61 mm.; vertex .36 mm. Rostrum: length .96 mm., scarcely attaining posterior margins of intermediate coxae. Antennae: segment I, length .21 mm., greatest thickness .12 mm.; segment II, length .78 mm., greatest thickness .15 mm.; segment III, .65 mm., slender, yellowish brown; segment IV, .43 mm., dusky. Pronotum: length .56 mm., width at base 1.0 mm.

Color uniformly black, tarsi except apical segment and claws yellowish, apical half of anterior and intermediate tibiae yellowish, antennal segments I and II tinged with red. Membrane dusky, veins black. Densely clothed with black simple pubescence and intermixed with closely appressed, silvery-white, deciduous, scale-like pubescence on femora, dorsum and sides of body, the individual scales much narrower than on *crataegi*.

Female. Length 2.8 mm., width 1.44 mm. Head: width .7 mm.; vertex .39 mm. Antennae: segment I, length .21 mm., greatest thickness .09 mm.; segment II, length .83 mm., greatest thickness .08 mm.; segment III, length .65 mm., slender; segment IV, length .17 mm., slender. Pronotum: length .61 mm., width at base 1.18 mm. Somewhat more robust than male but color and pubescence very similar.

Holotype: male, May 22, 1932, College Station, Texas (H. J. Reinhard).

Allotype: female, taken with the type.

Paratypes: 16 males and females, May 26, 1932, College Station, Texas (H. J. Reinhard); 3 males and 1 female, April 4, 1928, Huntsville, Texas (H. G. Johnston), found breeding on *Houstonia angustifolia* which is, no doubt, the host plant.

Eustictus albomaculatus n. sp.

Allied to *knighti* Johnston, but differs in the absence of long hairs on tibiae, shorter rostrum and much larger eyes.

¹ Contribution from Entomology Department, A. & M. College of Texas, College Station, Texas.

Male. Length 5.9 mm., width 2.14 mm. Head: width 1.35 mm.; vertex .17 mm.; eyes large, dorsal width of an eye .61 mm., height .91 mm., almost reaching the buccula. Rostrum: length 2.7 mm., not reaching apex of posterior coxae. Antennae: segment I, length .78 mm.; segment II, length 2.19 mm.; segment III, length 1.13 mm.; segment IV, length .96 mm.; general color brownish with pale maculations. Pronotum: length 1.13 mm., width at base 1.97 mm., uniformly brown with a narrow white line on posterior margin.

General color reddish brown to dark brown; head, pronotum, apical third of corium, narrow outer edge of embolium, apex of cuneus and membrane dark brown; mesoscutum and scutellum often dark brown as the pronotum; basal half of cuneus opaque white, apex dark brown. Venter and legs red, apex of femora, tibiae, and often the genital segment dark reddish brown. Dorsum with scattered, rather uniformly spaced, long, erect, black hairs on pronotum, scutellum, and hemelytra except cuneus and embolium.

Holotype: male, May 20, 1930, Weslaco, Texas (J. C. Gaines),

Paratypes: 1 male taken with type at trap light; 2 males, June 7, 1933, 2 males, June 30, 1935, 1 male September 10, 1935, Dimmit Co., Texas (S. E. Jones), at trap light.

***Neoborus quercicola* n. sp.**

Distinguished by the robust oval form, convex frons and scutellum, short rostrum, and coloration. This species is distinctly intermediate between *Lygus* and *Neoborus* and differs from *Lygus* essentially in the shorter head, puncturation between the calli, and the male genitalia.

Male. Length 4.6 mm., width 2.14 mm. Head: width 1.18 mm.; vertex .39 mm.; frons distinctly convex, impunctate, basal carina distinctly sinuate, a small depressed area in front of carina on lateral margins of vertex, eyes large, oval, not compressed. Rostrum: length 1.27 mm., slightly surpassing hind margin of sternum. Antennae: segment I, length .43 mm.; segment II, length 1.5 mm.; segment III, length .52 mm.; segment IV, length .35 mm.; yellowish-brown clothed with short, fine pubescent hairs. Pronotum: length 1.18 mm., width at base 2.0 mm.; strongly convex, lateral margins not carinate, coarsely, deeply punctate, a few punctures between calli, calli smooth, shining, extending anteriorly to collar; scutellum rather strongly convex, sparsely, coarsely punctate.

General color yellow marked with red and brown. Pronotum yellow, calli shining black anteriorly, posterior half with four large brown spots separated by yellow rays; scutellum yellow with two large brown spots each side of median line on apical half; hemelytra somewhat translucent, clouded with red and reddish brown, a distinct brown spot on basal half of corium inside radial vein, apex of corium and embolium with irregular reddish to brown spot, cuneus somewhat translucent, marked with bright red principally on outer basal angle and inner apical angle, membrane dusky, veins pale; sternum with large brown spot; ostiolar peritreme yellow, episternum brown; abdomen with irregular brown spots on sides of segments and with reddish and brown spots on genital segment; legs yellow, tibiae with three reddish to reddish-brown bands, tarsi with apical joint and claws brown, middle and hind femora with broad brown median band. Clothed with fine, short, yellow hairs.

Female. Length 4.9 mm., width 2.3 mm. Head: width 1.2 mm.; vertex .48 mm. Antennae: segment I, length .43 mm.; II, 1.48 mm.; III, .52 mm.; IV, .35 mm. Pronotum: length 1.3 mm., width at base 2.2 mm. Slightly larger and more robust than male. Coloration and pubescence similar to male but color more yellowish, the reddish and brown areas less extensive.

Holotype: male, April 1, 1933, College Station, Texas (H. G. Johnston).

Allotype: Female, taken with the type.

Paratypes: 42 males and females taken with the types on live oak (*Quercus virginiana*) where the species breeds abundantly; 21 males and females, April 24, 1932, Sonora, Texas (S. E. Jones), light trap.

***Neoborus rostratus* n. sp.**

Distinguished by the short antennal segment II which is scarcely equal to width of head through eyes, the long rostrum which slightly surpasses apex of hind coxae, and the lateral carinae of pronotum.

Male. Length 3.5 mm., width 1.57 mm. Head: width .83 mm.; vertex .30 mm.; tylus with black line on apical half which divides on basal half to form two divergent lines that extend upon frons where they become reddish brown, frons shallowly punctate, shining. Rostrum: length 1.48 mm.,

slightly surpassing apex of hind coxae, yellowish, apex black. Antennae: segment I, length .26 mm., yellowish with a brown line on dorsal surface; segment II, length .83 mm., covered with fine, golden pubescence, basal half yellow, apical half black; segment III, length .42 mm., black; segment IV (broken). Pronotum: length .87 mm., width at base 1.4 mm., rather finely, densely punctate, lateral margins with two sub-parallel yellow carinae that are especially prominent on apical half, disk yellow, calli with large brown spot on inner margin, posterior half with two more or less distinct, wavy, transverse, brown bands, narrow basal margin yellow. Scutellum strongly convex, coarsely punctate, narrow median line impunctate, yellow, a dark brown line each side of median line diverging to lateral margins before apex.

Dorsum practically glabrous, with very fine, inconspicuous golden hairs. Hemelytra yellowish brown with four oblique brown lines, cuneus principally pale with brown markings. Membrane dusky, veins pale somewhat tinged with brown. Legs pale, femora with irregular brown markings on basal half and two sub-apical brown bands, tibiae with narrow dorsal brown stripe, tarsi with apical segment and claws fuscous. Ostiolar peritreme yellow, episternum brown, finely, densely punctate.

Female. Length 3.28 mm., width 1.8 mm. Head: width .89 mm.; vertex .39 mm. Antennae: segment I, length .26 mm.; segment II, length .87 mm., incrassated, slender basal half yellow, practically glabrous, thickened apical half black, finely, densely pubescent; segment III, length .43 mm.; segment IV, length .30 mm. Pronotum: length 1.0 mm., width at base 1.5 mm. Slightly more robust and somewhat paler in color than the male, the brownish markings less extensive. Puncturation and pubescence very similar to male.

Holotype: male, April 26, 1937, Brownsville, Texas (H. J. Crawford).

Allotype: female, taken with the type.

Paratypes: one male and two females taken with the types on *Croton berlanderi*.

Neoborus maculatus n. sp.

Allied to *rostratus* n. sp. but distinguished by the more prominent pubescence, different color, and the lateral pronotal carinae.

Male. Length 3.3 mm., width 1.6 mm. Head: width .87

mm.; vertex .27 mm.; brown, tylus black; frons distinctly, transversely striate. Rostrum: length 1.4 mm., attaining hind margins of posterior coxae, yellow, apex dark brown. Antennae: segment I, length .24 mm., yellowish with brown line on dorsal surface; segment II, length .83 mm., dark brown, apex yellow; segment III, length .39 mm., dark brown, apex yellow; segment IV, length .30 mm., dark brown. Pronotum: length .87 mm., width at base 1.4 mm., rather finely, densely punctate, posterior half of disk with numerous, irregular, yellowish callosities, posterior margin smooth, yellowish, lateral margins distinctly carinate, calli shining black on inner margins. Scutellum rather strongly convex, yellow and calloused except median line on basal half, rather finely, densely punctate.

Dorsum rather uniformly, irregularly, spotted with yellow and brown, membrane black, veins yellow; hemelytra uniformly, finely, densely punctate, sparsely clothed with fine golden pubescence. Legs pale, apex of hind femora, tibiae, and apical segment of tarsi dark brown. Venter yellowish, pleura and short line on abdominal segments brown.

Female. Length 3.4 mm., width 1.9 mm. Head: width .87 mm., vertex .35 mm. Antennae: segment I, length .26 mm.; segment II, length .83 mm.; segment III, .43 mm.; segment IV, length .30 mm. Pronotum: length 1.0 mm., width at base 1.7 mm. Slightly more robust, but coloration, pubescence, and puncturation very similar to male.

Holotype: male, April 26, 1937, Brownsville, Texas (H. J. Crawford).

Allotype: Female, taken with the type.

Paratypes: one female taken with the types on *Croton berlanderi*; one male and one female, April 16, 1937, Brownsville, Texas (H. J. Crawford), also taken on *C. berlanderi*.

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